



*nccat*

THE NORTH CAROLINA CENTER FOR THE ADVANCEMENT OF TEACHING

WINTER NEWSLETTER • VOLUME 22 • NUMBER 1 • JANUARY 2009

276 NCCAT Drive • Cullowhee, NC 28723 • Phone 828-293-5202 • [www.nccat.org](http://www.nccat.org)



TERRI CLARK

# Tomorrow starts today...

## **NCCAT leads the way by expanding math, science, and technology offerings**

“Our science, technology, and math renewal seminars have always been popular,” said Dr. Mary McDuffie, executive director of NCCAT. “So as North Carolina has moved to emphasize these disciplines in the public school curriculum, NCCAT has supported that move by increasing offerings in these areas. Our science, technology, and math programming gives teachers experience with the newest frontiers; it allows them to learn and share creative teaching strategies; and it energizes our teachers’ intellectual curiosity in these areas, so they in turn energize their students.”

In the last quarter of 2008 alone, NCCAT offered many professional development seminars specifically addressing science, technology, and math. These include “Starry, Starry Night;” “It’s Not Easy Being Green;” “Uncertain Journey: The Autumn Migration of Winged Creatures;” “Everyday Geometry: Art, Nature, and Architecture;” and “Climbing the Double Helix: Is DNA Destiny?” to name just a few.

“Climbing the Double Helix,” which took place in November, allowed participants to experience a

science topic as a foundation for interdisciplinary study. “Beginning by examining the biology of DNA and genetics,” said Center Fellow Peter Julius, “the seminar evolved to consider the ethical, social, and legal issues brought forth by this burgeoning science.”

In September, “It’s Not Easy Being Green,” which was sponsored by a generous \$25,000 grant from the Progress Energy Foundation, introduced participants to the expanding science and industry of green technologies—from recycling to sustainable energy sources to green building materials and design. “Participants got to experience what is new in sustainability, what is already in the marketplace, and what the future holds,” said Dr. Henry Wong, the NCCAT center fellow who designed and developed the seminar.

Martha Thompson, manager of community relations for Progress Energy, said, “It’s important to Progress Energy that we play an integral role in the development of alternative and renewable energy sources. We know that to produce a brighter future, we must develop the consciousness of our youth who will inherit these issues. What NCCAT does

*continued on page 2*

## Tomorrow starts today...

*continued from page 1*

is important in sparking their interest. 'It's Not Easy Being Green' was balanced and informative. I believe NCCAT seminars such as this play a foundational role in helping our teachers help the next generation to realize the impact we have on the environment and the opportunities available for being part of the solution."

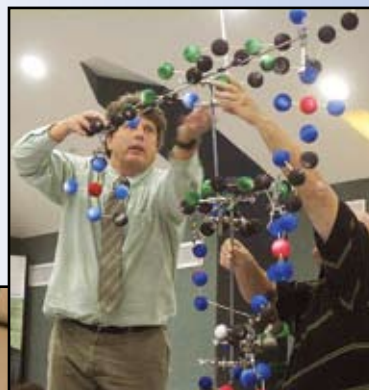
More science, math, and technology seminars are available for North Carolina's public school teachers—at no cost to the teacher or the school. Topics run the gamut from "NASCAR: Science on the Racetrack" to the "Sea Level Rise: The Impact of Climate Change on the Outer Banks."

One new seminar is called "You Go, Girl! Encouraging Girls in Math, Science, and Technology." Created by Dr. Carmelita Gates, this seminar focuses on strategies to help teachers challenge their female students' intellect and creativity in



TERRI CLARK

science, technology, engineering, and math (STEM). NCCAT's "Wiki, Wacky, What? Web 2.0 Applications



NATALIE ELDERS

for 21st Century Schools" is another new seminar that will give teachers hands-on opportunities to enhance their technology competencies, so they can better help students thrive in and out of the classroom.

"The jobs of tomorrow are going

to require skills in science, math, and technology," McDuffie said. "The more knowledgeable and inspired our teachers are in these areas, the better educated and prepared the next generation will be."

*NCCAT seminars, "DNA Destiny" (above) and "Everyday Geometry" (left), allow teachers literally to step inside abstract concepts and add to their understanding.*

## NCCAT professional development seminars contribute to UNC Tomorrow

The University of North Carolina, with various partners and oversight by the UNC Board of Governors, has taken a proactive approach in preparing our state for the twenty-first century in a statewide initiative called "UNC Tomorrow." With its professional development seminars and programs, NCCAT provides a ready path to support our public school teachers in this effort.

Based on an intensive statewide study, "UNC Tomorrow" identifies the challenges facing North Carolinians in the next twenty years, and it outlines the actions that UNC and its entities will take in response. While many of the stated goals will be achieved through curriculum and classroom endeavors on UNC campuses, Dr. Mary McDuffie, executive director of NCCAT, reported that "NCCAT already has programming in place that responds to the report's objectives and gives our public school teachers the skills and information they need to do their part in preparing North Carolina's students for success in the twenty-first century."

For instance, according to the "UNC Tomorrow" report, UNC should be more actively involved in solving North Carolina's public education challenges

such as: improving the quantity, quality, and geographic distribution of public school teachers; addressing the shortage of science and math teachers; and enhancing the teaching skills of public school faculty and the leadership skills of public school administrators.

"NCCAT's programming makes significant contributions in all these areas," McDuffie said. "Naturally, the professional development and leadership focus of our seminars add to the quality of our public school faculty. Also, we have increased seminar offerings in the areas of science, math, and technology."

Most importantly for our state, NCCAT plays a vital role in the retention of high-quality teachers. NCCAT's seminars and programs have a proven track record of improving the retention rate of teachers, especially those who are new to the profession. In fact, 87.2% of teachers who participated in NCCAT's beginning teachers programs from 2004–2007 remain in teaching, as compared to 65.9% statewide and 66% nationally. These programs are aimed at keeping teachers in the classroom by providing the knowledge, support, and mentoring needed in those critical first years.

Go to [www.nctomorrow.org](http://www.nctomorrow.org) to read the report.



## NCCAT Holocaust Education Program gives NC teachers a multi-faceted perspective

A group of North Carolina teachers took a ten-day journey in August to Poland and Germany to see firsthand fifty-seven sites significant to the Holocaust and meet with some of the foremost scholars on this event in history.

“Holocaust education has been part of NCCAT’s diversity offerings since 1994,” said Dr. Jonathan Wade, co-director of the NCCAT Holocaust Education Program. “However, teachers expressed that they wanted a chance for a more in-depth study, so we secured outside funding and developed the seminar ‘Becoming Witnesses: Primary Sites of the Holocaust.’”

The journey started in Berlin. “We wanted participants to see the underpinnings of the Holocaust,” Wade said. “We visited the city’s many Holocaust memorials and walked through its old Jewish neighborhoods.” Mary Cummens, a social studies teacher at Dillard Drive Middle School in Wake County, said it was haunting and thought provoking to walk through neighborhoods in both Berlin and cities in Poland where Jewish people had lived as full members of society for centuries. “At one point, our guide posed the question, ‘When did neighbors become Jews?’” she said. “It made me think: ‘When did these complex human beings become single faceted — Jews alone — in their neighbors’ eyes?’”

Lee Holder, a history teacher from North Lenoir High School in Lenoir County, said, “I look at Germany as one of most cultured places on Earth. It has given us Beethoven and Goethe and Einstein. Yet, this happened there. And if it can happen there, it can happen here. Genocide starts as prejudice.”

In Poland, the group visited Jewish ghettos, concentration camps, and Oscar Schindler’s factory made famous in the film *Schindler’s List*. “It rained on the way to Auschwitz,” recalled Larry Moore, who teaches French at Southwest Middle School in Gaston County. “The weather suited the situation. The grounds of the camps were unexpectedly beautiful. Being there moved me, terrified me, and forced me to converse with it. These places have an eerie silence that is so loud.”

“This seminar created an even greater passion in me,” Cummens said. “We are a state with historic prejudices and a recent influx of many different cultures. Holocaust education turns the tide and makes us deal with issues that will determine our state’s health, economy, and vitality.”

Moore concurred, “I see the Holocaust and our own nation’s history with slavery as springboards in the classroom. These events show us that we as human beings are often myopic in our definition of community. Taking a hard look at these events forces us to dig deeper and realize there is no ‘us and them’ when we get right down to it.”

Holder added, “My knowledge from this seminar increased twentyfold. I gained knowledge and insight from experts in the field and my fellow teachers. My units on the Holocaust stir so many questions in my students — mostly the kind that have no answers. This subject opens their hearts. It helps them develop empathy and makes them better decision-makers and better people.”

To learn more about what the participants saw, learned, and brought back to their classrooms, visit the NCCAT website at [www.nccat.org](http://www.nccat.org) and click on the Holocaust Education Program link.



JONATHAN WADE

*Thorsten Wagner (above), an educator at the Jewish Museum of Berlin, talks to seminar participants at the Gleis 17 Memorial in Berlin, Germany.*

*The gate (below) at the prisoners’ entrance to Auschwitz reads “Arbeit Macht Frei,” which translates as “Work Makes You Free.”*



SANDRA BOWLING

## NCCAT beginning teachers connect to their future in the profession

“We all know that experience is the best teacher,” said Steve Hauge, an educator of more than thirty years from Raleigh and a frequent presenter at NCCAT. “However, to keep teachers in the profession while they gain that experience, we need to support them by giving them practical know-how collected from the experiences of generations of teachers.”

That is exactly what the North Carolina Center for the Advancement of Teaching provides for second- and third-year teachers who participate in NCCAT’s “Connect to Your Future: Celebrating Success in the Classroom” seminars. These seminars are funded in part by a grant from the Z. Smith Reynolds Foundation. NCCAT also has received major grant support for its beginning teachers program from the Wachovia Foundation Teachers and Teaching Initiative.

“At this stage, most teachers are looking for classroom management strategies,” explained Hauge. So the seminar begins with teachers identifying their “lions, tigers, and bears”—the things that interfere with a smooth trip down the “yellow brick road” of learning.

“The key to managing discipline problems is to avoid them in the first place by engaging students in rich instructional activities,” Hauge said. “Every classroom, every lesson, every teacher is different. We talk about best practices and then we role-play. Giving these new teachers time to work with strategies and shape them to their style and their needs gives them the confidence to move from theory to practice in their own classrooms.”



NATALIE ELDERS

*Peer learning during NCCAT’s “Connect to Your Future” seminar allows second- and third-year teachers to gain valuable classroom management skills and best practices while creating professional relationships with fellow teachers. Both add to career satisfaction and boost retention rates across the state.*

In addition to working through specific strategies, these seminars also serve to expand the teachers’ professional network and renew their excitement about teaching. Ashley Melton, a first-grade teacher at Sardis Elementary in Union County, summed up the experience well, “This week changed my life personally and as a professional educator. It taught me strategies and effective best practices that I can use in my classroom and present to my colleagues. Also, I have gained lifelong friends, networking capabilities, and a core support group of educators.”

## Duke Energy Foundation supports environmental seminar

Duke Energy Foundation has donated \$7,500 to help support NCCAT’s “Sea Level Rise: The Impact of Climate Change on the Outer Banks” seminar. Participants will examine the impact of climate change on North Carolina’s coast, while looking for solutions to become better stewards of our state’s natural resources. Duke Energy has generously supported NCCAT programming for more than a decade. “Duke Energy’s generous gift makes it possible for NCCAT to leverage our state funding and increase opportunities for North Carolina teachers,” said Center Fellow Alton Ballance.



MCINTYRE PHOTOGRAPHY

SANDRA BOWLING

*Center Fellow Alton Ballance with North Carolina teachers. NCCAT is offering a seminar this spring exploring the impact of climate change on sea level.*



## Technology engages students, advances learning

"Computers are part of daily life for students today. They are as comfortable with technology as my generation was with television," said Melissa Thibault, executive director of LEARN NC and a presenter for NCCAT's "Multimedia

In the Classroom: Empowering Student Learning" seminar, which took place in August. "Educators need to engage students where they are, and teachers understand that technology can enhance learning for their students."

Seminar participants represented the full spectrum of technological proficiency. Working in groups according to skill level, teachers learned how to effectively apply multimedia in the classroom. "The Internet is not just for gathering information," explained Thibault. "It is also a place students can connect with others and share information." The teachers built skills, enhanced their computer literacy, and learned how to access free applications. Then, they put what they learned into action and created multimedia projects that incorporated classroom curriculum.

After the seminar, back in their own classrooms, the teachers experienced the real power of what they had learned. Cher Delapp, who teaches fourth grade at Central Elementary in Rockingham County, said, "I have seen the difference technology has made in my classroom already. The projects that allow my students to create are much more inviting than a lecture by the teacher."

Barbara Jones, a math teacher at S.W. Snowden Elementary School in Beaufort County, reported that her laptop "has now turned into a lean, mean teaching machine. I was amazed at what I have learned since my return home. I did a great lesson with my students involving Photo Story (show-and-tell software) and scatter plots (a type of graphing). My students are excited to make their own."

Thibault added, "This seminar gives our teachers time in a supportive environment to explore these critical education tools and share what works." To get an overview of the seminar, see each group's project, and share in their continuing information exchange, visit their NCCAT Wiki at <http://nccatmultimedia.pbwiki.com>.



TERRI CLARK (2)

Melissa Thibault (above), executive director of LEARN NC and an NCCAT presenter, explains how Photo Story makes lessons come alive. Center Fellow Dr. Ernest Johnson (left), who designed NCCAT's "Multimedia

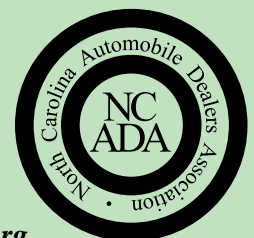
In the Classroom: Empowering Student Learning" seminar, walks among seminar participants. "It amazes me how much learning takes place within a few days when teachers have access to expertise and online resources," Johnson said.

## NCCAT Golden Apple Gala & Silent Auction February 28



Invitations are in the mail for this year's NCCAT Golden Apple Gala and Silent Auction to be held at the Capital City Club in Raleigh on February 28, 2009. With

the North Carolina Automobile Dealers Association as its signature sponsor, this black-tie event is in celebration and support of North Carolina public school teachers. If you are interested in attending, contact the Development Foundation of NCCAT at 828-293-5202 or email [goldenapplegala@nccat.org](mailto:goldenapplegala@nccat.org).



## Women in aviation; leaders in the classroom

“Learning to fly a plane taught me courage, perseverance, and self-confidence, as well as physics and weather,” said Betty Shotton, a pilot and presenter at NCCAT’s “Women in Aviation: Pioneers of Courage” seminar held at Ocracoke in September. “I wanted the teachers who participated in this seminar to experience those things.

I wanted them to become excited about what is possible for them in their profession—no matter the obstacles—and pass that enthusiasm on to their students.”

According to Center Fellow Dr. Donna Glee Williams, the history of women aviators is rich with lessons for teachers. “It’s an under-told history,”

Williams said. “Women aviators—from the thousand female pilots in World War II to the female astronauts involved in the first days of the space program—overcame a lack of resources, lack of recognition, and lack of opportunities to realize their goals.”

In fact, Shotton herself had been told as a girl that she could be a navigator but not a pilot. Today she holds an Airline Transport License (ATL), the highest level of aircraft pilot licensing available. “If we want to open up opportunities for all students, to encourage math and science, and to show that gender does not define academic or career aspirations, our teachers need examples from history to share with their students,” Shotton said.



LENA DONTON (2)

*Betty Shotton (above), a pilot and NCCAT presenter, sits atop the wing of a vintage plane. Seminar participants (left) use the schooner's sail to test the Bernoulli Principle, which is the scientific principle that explains how planes stay in the air.*



Participants also experienced the science of flight. “They learned the basics of what gets the plane in the air, the Bernoulli Principle,” explained Williams. The Bernoulli Principle states that slower air has a higher pressure; air flows faster over a wing and more slowly under a wing, thus lifting the plane. “Then we headed out to the water,” continued Williams. “If you think about it, a sail is simply a vertical wing. So we climbed aboard a schooner and used its sail to test the science.”

This seminar encourages teachers to think of their professional ambitions and the barriers they face. They are asked to engineer a strategy to soar above those barriers, as women aviators did, and land successfully at their goals.

## Development Foundation of NCCAT welcomes three new members

The Development Foundation of NCCAT seated three new board members in October—Robert E. Merritt, Dr. Shirley B. Prince, and Jim R. Simeon.

Merritt is a former chairman of the board of directors of Renfro Corporation. He sat on the NCCAT Board of Trustees from 1993–2003, serving as chairman for five of those years.

Superintendent of Scotland County Schools, Prince was selected as the Superintendent of the Year for North Carolina in 2007–2008 and currently sits on the State Board of Education as superintendent advisor.

Simeon is the director of the Sandhills Region Education Consortium. A former administrator in Clinton City Schools, he was the superintendent for Jean Powell, often referred to as the “fairy godmother of NCCAT,” when she was named Teacher of the Year and envisioned NCCAT in 1983.

“NCCAT is fortunate to welcome such distinguished and dynamic people to our foundation board,” said Richard Schwartz, president of the Development Foundation of NCCAT.



## Teaching in diverse classrooms

As schools across North Carolina welcomed increasingly diverse student bodies at the start of this school year, a group of teachers gathered at NCCAT to take a hard look at diversity issues and at themselves during NCCAT's professional development seminar "Teaching With Confidence in Diverse Classrooms."

"Talking about diversity can be intimidating," said Rosalyn Alexander Salem, a school counselor for Charlotte-Mecklenburg Schools, a diversity educator, and a presenter for this seminar. "However, from the first day, this group established a nurturing environment and got to work asking tough questions of themselves as teachers and people."

The seminar began with defining "diversity." Teachers examined their own cultural history to better understand biases that can interfere with meeting the needs of their students. Salem used a continuum of awareness with six phases that range from believing in the dominance of one group to believing all people are the same to recognizing and embracing cultural differences by actively learning how to best serve students of various backgrounds. "We are all at different places on that continuum at different times. The teachers did some exercises to find where they were right now, so they could be fully aware of their own barriers and work from there," Salem said.

In addition to Salem, the seminar featured presenters speaking on Native American and Latino cultures. Teachers learned the history of these cultures and



NATALIE ELDERS

*Rosalyn Alexander Salem (left), an NCCAT presenter, guides participants through a seminar activity she calls cultural bingo.*

the impact of culture on students. Salem encouraged teachers to get to know the cultural norms of their students and gave participants practical tips for engaging students of different cultural backgrounds, which can be as simple as asking students what they do at home or including a name from their culture in an assignment.

Salem added, "As we work hard in education to improve test scores, the core is still that relationship between teacher and students. As teachers become more aware of cultural differences, they will have the tools to create stronger relationships and be able to provide what each child needs to thrive in school."



## Linda Suggs joins NCCAT Board of Trustees

Linda S. Suggs of Morrisville was sworn in as a member of the NCCAT Board of Trustees at the board's October meeting in Cullowhee.

Suggs began her work in education as a middle school teacher in Wake County Public Schools, where she also served as a curriculum supervisor. Her impressive career includes service as section chief for school personnel support at the North Carolina Department of Public Instruction, as associate executive director for the North Carolina Association of

School Administrators, and as a legislative director for the North Carolina State Board of Education.

After her retirement in February 2006, Suggs was awarded membership in the Order of the Long Leaf Pine, North Carolina's highest civilian honor. She currently consults for the Bill and Melinda Gates Foundation on issues related to leadership, advocacy, and improving educational outcomes for students in North Carolina.

She holds a bachelor's degree from Meredith College, a master's degree from Duke University, and has done postgraduate work in curriculum and supervision at North Carolina State University.

## NCCAT welcomes UNC Board of Governors

The University of North Carolina Board of Governors, UNC chancellors, affiliated leaders, the General Administration Council, and others came to NCCAT's Cullowhee campus on October 16 to learn about the center. The visitors were given an overview of NCCAT's accomplishments along with the targeted message of "NCCAT retains teachers."

Richard Schwartz, president of the Development Foundation, shared with guests that teacher attrition costs the state more than \$85 million a year. However, teachers who attended NCCAT seminars from 2004–2007 have an overall annual retention rate of 96.9%, as compared to 87.9% statewide and 83.2% nationally. "No better return on investment can be gotten anywhere than the cost savings generated by NCCAT's retaining quality teachers and by the ideas and enthusiasm they generate when they return to their classrooms," Schwartz said.

Dr. Kenneth Wells, chairman of the NCCAT Board of Trustees, added, "NCCAT rescues teachers and reconnects them with their passion for learning. Passionate teachers create enthusiasm among students. Enthusiastic teachers and learners build effective schools. Strong public schools improve the quality of life for all citizens and ensure North Carolina's economic vitality."



Left to right: Dr. Kenneth Wells, chairman of the NCCAT Board of Trustees; UNC President Erskine Bowles; NCCAT Executive Director Dr. Mary McDuffie; and Richard Schwartz, president of the Development Foundation of NCCAT.

NCCAT • WINTER NEWSLETTER • Volume 22 • Number 1 • January 2009  
The North Carolina Center for the Advancement of Teaching  
Published by: The North Carolina Center for the Advancement of Teaching  
276 NCCAT Drive, Cullowhee, NC 28723  
Phone: 828-293-5202 Toll Free: 800-922-0482 Fax: 828-227-7363  
The North Carolina Center for the Advancement of Teaching  
A Center of the University of North Carolina  
Dr. Mary D. McDuffie, Executive Director  
An Equal Opportunity Institution  
25,000 copies of this public document were printed at a cost of \$8,401 or \$0.34 per copy

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